

REMARKS

Claims 1-19 are pending in this application. By this Amendment, claims 1 and 11 are amended. These amendments introduce no new matter. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

Applicants appreciate the courtesies shown to Applicants' representatives by Examiner C. Nguyen in the March 10, 2006 personal interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

The Office Action, in paragraph 4, indicates that this pending application is directed to a quick access recorder. That is not correct. In fact, the application is directed to a system which includes as part of that system a quick access recorder (see, *e.g.*, Fig. 1). The Office Action asserts that how quick the recorder is merely a relative term compared to other recorders already in the market. This assertion completely misconstrues the subject matter of the pending claims. A quick access recorder is a term for a specific commercial off the shelf product that is, for example, described in paragraphs [0029] and [0030] of Applicants' disclosure. A quick access recorder (QAR) is a mass storage device that records a large and diverse plurality of output signals from line replaceable units (LRUs), actuators, valves, sensors and other various components of a vehicle to determine an indication of legitimate faults. Sudolsky, in fact, discloses use of an optical quick access recorder at, for example, col. 6, lines 16-18. As such the discussion in paragraph 4 regarding how quick is a quick access recorder is misplaced. Further, Applicants claim a system which includes a QAR device and a portable hardware component (see, *e.g.*, Fig. 1). The disclosure in its description and depictions in the figures accurately describes and depicts the system of the pending claims. The interpretation provided in paragraph 4 is misplaced.

The Office Action, in paragraph 5, rejects claims 1-19 under 35 U.S.C. §112, first paragraph, indicating that these claims, specifically independent claims 1 and 11, fail to meet the

enablement requirement. While Applicants do not concede that the conclusion of the Office Action is correct in this regard, Applicants voluntarily amend independent claims 1 and 11 to better clarify the recited subject matter, and to expedite further prosecution of this application.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-19 under 35 U.S.C. §112, first paragraph, are respectfully requested.

The Office Action, in paragraph 6, rejects claims 1-19 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,115,656 to Sudolsky, in view of U.S. Patent No. 6,757,668 to Goebel et al. (hereinafter "Goebel"). This rejection is respectfully traversed.

At the outset, Applicants again respectfully note that Sudolsky is discussed in the background section under a Description of Related Art in this application (see paragraph [0005]). The subject matter recited in claims 1-19 is intended to at least address and overcome one or more shortfalls of systems and methods such as those taught by Sudolsky. Applicants are concerned that Applicants' previous arguments in this regard have not been fully addressed.

Sudolsky teaches a method for recording and reporting fault information pertaining to various components of an aircraft, the method involving recording information output from various components of the aircraft onto an electronic medium (Abstract). The electronic medium is removed from the aircraft after landing and read by an appropriate apparatus (Abstract, emphasis added). Specifically, Sudolsky discloses that the method involves using a mass storage device such as an optical quick access recorder (OQAR) from which an electronic medium can be easily removed (col. 6, lines 16-18). The electronic medium in Sudolsky monitors and records output signals from various components of an aircraft in real time (col. 6, lines 20-23). An optical storage disc is removed from the OQAR and transported to an appropriate optical disc reader associated with a personal computer after a mission flight is accomplished. As such, while the monitoring function of the method disclosed in Sudolsky may occur in real time, the analysis (diagnosing and reporting) functions do not occur in real time.

These functions are accomplished by a separate device apart from the aircraft after a specific flight and/or mission is completed (see, generally, col. 6, lines 27-38). As noted in paragraph [0005] of the specification, the invention in Sudolsky relies on expensive, proprietary equipment that is permanently installed on the aircraft, and that requires an extensive certification process to be undertaken due to its permanent installation. Also, the system may require a highly-skilled maintenance crew to board the aircraft after the flight and download the recorded LRU fault information.

The analysis of the Office Action mapping features from Sudolsky which are alleged to correspond to features recited in the pending claims fails in at least two areas. First, the Office Action, at paragraph 6.b., asserts that Sudolsky teaches a portable component which the Office Action alleges could be removable and used for diagnosing information and/or fault referring specifically, for example, to the optical disc shown as element 20 in Fig. 1 of Sudolsky. For reasons discussed below, an optical disc such as that disclosed in Sudolsky cannot reasonably be considered to teach or to have suggested the portable hardware component that incorporates the features recited in the pending claim. Second, for the data transmitting device recited in the pending claims, the Office Action, at paragraph 6.d., refers to the Aircraft Propulsion and Data Management Computer (APDMC) 14 shown in Fig. 1 of Sudolsky, and the OQAR of Sudolsky. For at least the reasons discussed below, these components cannot reasonably be considered to teach, or to have suggested, the subject matter of the pending claims.

Claim 1 recites a system for monitoring, reporting and diagnosing fault information of a vehicle on a real-time basis both within the vehicle and outside the vehicle, comprising ... a portable hardware component that is removable from the vehicle and that uses information fusion and onboard reasoning processing within the portable hardware component to provide at least one of diagnosis, prognosis, isolation or vehicle component identification associated with the recorded fault information. Claim 11 recites, among other features, a method for monitoring,

reporting and diagnosing fault information of a vehicle on a real-time basis both within the vehicle and outside the vehicle, comprising ... diagnosing the fault information with the portable hardware component using information fusion and onboard reasoning processing within the portable hardware component to provide at least one of diagnosis, prognosis, isolation or vehicle component identification associated with the recorded fault information. According to these claims, it is the portable hardware component that at least accomplishes the real-time analysis and/or diagnoses of the fault information. Sudolsky makes no provision for such a feature and the alleged portable component of Sudolsky, *i.e.*, an optical disc, first is not a portable hardware component as such a term would be understood by one of ordinary skill in the art, and second cannot reasonably be considered to teach, or to have suggested, such a feature. The Office Action continues to reference the optical disc disclosed in Sudolsky as corresponding to a portable hardware component that is removable from the vehicle and that uses information fusion and on-board reasoning processing within the portable hardware component to provide at least one of a diagnosis, prognosis, isolation or vehicle component identification associated with the recorded fault information. An optical disc cannot use information fusion and onboard reasoning processing within the optical disc to provide any of the functions indicated above.

The alleged data transmitting device of Sudolsky, as well, does not provide a capability by which information regarding the at least one of the diagnosis, prognosis, isolation or vehicle component identification can be transmitted, in real time, between the portable hardware component and at least one remote receiver.

The Office Action concedes that Sudolsky does not disclose a component that uses information fusion, but rather relies on Goebel as teaching such a capability. The Office Action concludes that it would have been obvious to one of ordinary skill in the art to combine Sudolsky's and Goebel's teachings to disclose a portable and removable hardware component that uses information fusion to provide diagnosis associated with recorder fault information.

The Office Action alleges that an advantage of easily and efficiently diagnosing systems of an aircraft for correction without affecting operations of other onboard components can be realized.

The analysis of the Office Action fails for the following reasons. First, as indicated above, Sudolsky cannot reasonably be considered to have suggested the portable hardware component with the capabilities recited in the pending claims. Second, the fact that Goebel may suggest information fusion does not on its face indicate any motivation for making the combination of references asserted in the Office Action. In other words, the information fusion system of Goebel comprising a plurality of sensors associated with the system, where each sensor is related to at least one class of the system and is data-related to the at least one class that includes classification tools that are designed to receive selected and pre-processed outputs from the sensors and to generate classification outputs representing a state of at least one class of the system, simply because it mentions fusion, cannot reasonably be considered to overcome any shortfall in the application of Sudolsky to the subject matter of the pending claims. Third, a broad statement that such a combination would have been obvious does not meet the standard for providing objective evidence of a motivation to make the specific combination in the prior art.

MPEP §2143.01 instructs that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." MPEP §2143.01 further instructs that "[a]lthough a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.'" *See also In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Applicant respectfully submits that the rejection of at least independent claims 1 and 11 is improper in view of at least MPEP §2143.01 because the Office Action lacks the required specific evidence of a teaching, suggestion or motivation in the prior art for one of ordinary skill to combine these references.

Separately, Applicants previously argued that claims 4-7, 16 and 17 positively recite that the portable hardware component comprises an Electronic Flight Bag with an associated suite of applications for performing the real-time monitoring and analysis. The Electronic Flight Bag that is the subject matter of the pending claims is described at least at paragraph [0037] of Applicants' disclosure. This description includes that an Electronic Flight Bag (EFB) is typically a standard tablet PC that meets FAA criteria as a Class 2 device. The EFB is portable and used as a host computer for various functions on a flight deck. The EFB is a small electronic information management device for use by flight crew in performing flight-related tasks. EFBs serve as repositories for electronic document and also serve as multi-function devices that can support an array of application beyond those of a traditional flight bag. Reading this positively recited claim term as something other than an Electronic Flight Bag at least as described in paragraph [0037] of Applicants' disclosure is improper. Sudolsky, contrary to the assertions made in the Office Action specifically regarding claims 4, and 16, claims 5, and 17, claims 6, and 14, and claims 7, 9, 13, 15 and 18, neither teaches, nor can it reasonably be considered to have suggested, an Electronic Flight Bag as the portable hardware component.

The Office Action indicates that it is the Examiner's position that Sudolsky suggests a system that has the same functionalities not necessarily "an Electronic Flight Bag." In this regard, the Office Action improperly applies the standards for rejecting claims in an application by specifically construing the claims in a manner that vitiates a positively recited claim term. It is improper for the claims to be construed in a manner in which an Electronic Flight Bag that hosts a suite of applications for monitoring, reporting and diagnosing the fault information can be read not to comprise an Electronic Flight Bag, as specifically recited in the claims, and as discussed at at least paragraph [0037] of Applicants' disclosure. The Examiner's position that Sudolsky's suggests a system that has certain functionality does not allow the Examiner to improperly read the positively recited claim term out of the claims.

For at least these reasons, Sudolsky and Goebel cannot reasonably be considered to have suggested, the combinations of all of the features recited in at least claims 1, 4-7, 11, 16 and 17. Further, claims 2, 3, 8-10, 12-15, 18 and 19 are also neither taught, nor would they have been suggested, by any permissible combination of Sudolsky and Goebel for at least the respective dependence of these claims on independent claims 1 and 11, as well as for the separately patentable subject matter that each of these claims recites.

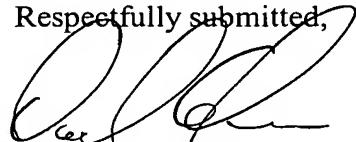
Accordingly, reconsideration and withdrawal of the rejection of claims 1-19 under 35 U.S.C. §103(a) as being unpatentable over Sudolsky and Goebel are respectfully requested.

Applicants' representative presented several of the above arguments to Examiner Nguyen during the March 10 personal interview. Specifically, Applicants' representative presented the arguments that (1) Sudolsky does not teach a portable hardware component with features recited in claims 1 and 11, (2) positive recitation in claims 4-7, 16 and 17 of an Electronic Flight Bag cannot be overlooked in the manner suggested by the Office Action, and (3) Goebel and Sudolsky are not combinable in the manner suggested by the Office Action to render obvious the subject matter of the pending claims. Examiner Nguyen was unpersuaded by Applicants' arguments, but indicated that he would undertake further consideration of the arguments, in view of the claim amendments, upon submission of this formal response.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-19 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number set forth below.

Respectfully submitted,



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